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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,600	02/04/2004	Masao Mizumaki	B422-254	3443

26272 7590 07/19/2005

COWAN LIEBOWITZ & LATMAN P.C.  
JOHN J TORRENTE  
1133 AVE OF THE AMERICAS  
1133 AVE OF THE AMERICAS  
NEW YORK, NY 10036

EXAMINER

LAM, THANH

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/771,600

Applicant(s)

MIZUMAKI, MASAO

Examiner

Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

1. Applicant is advised that the Notice of Allowance mailed 5/20/05 is vacated. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

#### ***Allowable Subject Matter***

1. The indicated allowability of claims 1-5 is withdrawn in view of the newly discovered reference(s) to Sakamoto (US 5,780,944) in view of Aoshima (US 5384506). Rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US 5,780,944) in view of Aoshima (US 5384506).

Regarding claim 1, Sakamo discloses a motor comprising: a magnet which has a cylindrical shape and is divided into N in the circumferential direction so as to be magnetized to different poles (5) alternately; a rotor shaft (3) is fixed in the inside

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diameter portion of said magnet; a first coil (12-1) which is arranged adjacently to said magnet in the axial direction of said rotor shaft; a first outside magnetic pole portion (11B) which is excited by said first coil, is inserted on the inner periphery side (11-1) of said first coil, and is arranged so as to be opposed to a predetermined angle range of the outer peripheral surface of said magnet with a predetermined gap being provided between said first outside magnetic pole portion and the outer peripheral surface of said magnet; a second coil (12-3) which is arranged on almost the same plane as said first coil so as to be adjacent to said magnet in the axial direction of said rotor shaft; and a second outside magnetic pole portion (11-3) which is excited by said second coil, is inserted on the inner periphery side of said second coil, and is arranged so as to be opposed to a predetermined angle range of the outer peripheral surface of said magnet with a predetermined gap being provided between said second outside magnetic pole portion and the outer peripheral surface of said magnet.

Aoshima discloses a rotor shaft (44) is formed of a soft magnetic material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shaft material of Sakamo and forming a soft magnetic material as taught by Aoshima in order to improve flux return of the motor.

Regarding claim 2, the proposal in combination of Sakamo and Aoshima disclose said first outside magnetic pole portion and said second outside magnetic pole portion are formed of a same member.

Regarding claim 3, the proposal in combination of Sakamo and Aoshima disclose said first outside magnetic pole portion and said second outside magnetic pole portion

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are formed into a comb teeth shape extending in the axial direction of said rotor shaft and in the same direction.

Regarding claim 4, the proposal in combination of Sakamo and Aoshima disclose the excitation of said first coil and said second coil is switched at different timing.

Regarding claim 5, the proposal in combination of Sakamo and Aoshima disclose an angle between said first outside magnetic pole portion and said second outside magnetic pole portion with the rotation center of said rotor shaft being the reference is  $0 < (180 - 180/N)$  degree.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on t-f 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thanh Lam  
Primary Examiner  
Art Unit 2834

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